

## SEQUENCE LISTING

<110> MCGILL UNIVERSITY  
SZYF, Moshe  
BHATTACHARYA, Sanjoy K.  
RAMCHANDANI, Shyam

<120> DNA DEMETHYLASE, THERAPEUTIC AND  
DIAGNOSTIC USES THEREOF

<130> 1770-183 "PCT" FC/ld

<150> CA 2,220,805

<151> 1997-11-12

<150> CA 2,230,991

<151> 1998-05-11

<160> 10

<170> FastSEQ for Windows Version 3.0

<210> 1

<211> 1804

<212> DNA

<213> Unknown

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gcgctcgggg	cggcgggcgt	ggccgggggc	ggtggaagca	ggcgggcccg	ggcgggcgcg	300
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009060-1175560

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 35 40 45  
 Val Arg Arg Glu Gly Ala Arg Gly Gly Gly Arg Gly Arg Gly Arg Trp  
 50 55 60  
 Lys Gln Ala Gly Arg Gly Gly Gly Val Cys Gly Arg Gly Arg Gly Arg  
 65 70 75 80  
 Gly Arg Gly Arg Gly Arg Gly Arg Gly Arg Gly Arg Gly Arg  
 85 90 95  
 Pro Pro Ser Gly Gly Ser Gly Leu Gly Gly Asp Gly Gly Gly Cys Gly  
 100 105 110  
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 115 120 125  
 Phe Pro Ser Gly Ser Ala Gly Pro Gly Pro Arg Gly Pro Arg Ala Thr  
 130 135 140  
 Glu Ser Gly Lys Arg Met Asp Cys Pro Ala Leu Pro Pro Gly Trp Lys  
 145 150 155 160  
 Lys Glu Glu Val Ile Arg Lys Ser Gly Leu Ser Ala Gly Lys Ser Asp  
 165 170 175  
 Val Tyr Tyr Phe Ser Pro Ser Gly Lys Lys Phe Arg Ser Lys Pro Gln  
 180 185 190  
 Leu Ala Arg Tyr Leu Gly Asn Thr Val Asp Leu Ser Ser Phe Asp Phe  
 195 200 205  
 Arg Thr Gly Lys Met Met Pro Ser Lys Leu Gln Lys Asn Lys Gln Arg  
 210 215 220  
 Leu Arg Asn Asp Pro Leu Asn Gln Asn Lys Gly Lys Pro Asp Leu Asn  
 225 230 235 240  
 Thr Thr Leu Pro Ile Arg Gln Thr Ala Ser Ile Phe Lys Gln Pro Val  
 245 250 255  
 Thr Lys Val Thr Asn His Pro Ser Asn Lys Val Lys Ser Asp Pro Gln  
 260 265 270  
 Arg Met Asn Glu Gln Pro Arg Gln Leu Phe Trp Glu Lys Arg Leu Gln  
 275 280 285  
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 290 295 300  
 Leu Pro Lys Gly Leu Gln Gly Val Gly Pro Gly Ser Asn Asp Glu Thr  
 305 310 315 320  
 Leu Leu Ser Ala Val Ala Ser Ala Leu His Thr Ser Ser Ala Pro Ile  
 325 330 335  
 Thr Gly Gln Val Ser Ala Ala Val Glu Lys Asn Pro Ala Val Trp Leu  
 340 345 350  
 Asn Thr Ser Gln Pro Leu Cys Lys Ala Phe Ile Val Thr Asp Glu Asp  
 355 360 365

009060-1115560

Sub B

Ile Arg Lys Gln Glu Glu Arg Val Gln Gln Val Arg Lys Lys Leu Glu  
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 <212> PRT  
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 35 40 45  
 Leu Ala Arg Tyr Leu Gly Gly Ser Met Asp Leu Ser Thr Phe Asp Phe  
 50 55 60  
 Arg Thr Gly Lys Met Leu Met Ser Lys Met Asn Lys Ser Arg Gln Arg  
 65 70 75 80

009060-111590

Val Arg Tyr Asp Ser Ser Asn Gln Val Lys Gly Lys Pro Asp Leu Asn  
 85 90 95  
 Thr Ala Leu Pro Val Arg Gln Thr Ala Ser Ile Phe Lys Gln Pro Val  
 100 105 110  
 Thr Lys Ile Thr Asn His Pro Ser Asn Lys Val Lys Ser Asp Pro Gln  
 115 120 125  
 Lys Ala Val Asp Gln Pro Arg Gln Leu Phe Trp Glu Lys Lys Leu Ser  
 130 135 140  
 Gly Leu Asn Ala Phe Asp Ile Ala Glu Glu Leu Val Lys Thr Met Asp  
 145 150 155 160  
 Leu Pro Lys Gly Leu Gln Gly Val Gly Pro Gly Cys Thr Asp Glu Thr  
 165 170 175  
 Leu Leu Ser Ala Ile Ala Ser Ala Leu His Thr Ser Thr Met Pro Ile  
 180 185 190  
 Thr Gly Gln Leu Ser Ala Ala Val Glu Lys Asn Pro Gly Val Trp Leu  
 195 200 205  
 Asn Thr Thr Gln Pro Leu Cys Lys Ala Phe Met Val Thr Asp Glu Asp  
 210 215 220  
 Ile Arg Lys Gln Glu Glu Leu Val Gln Gln Val Arg Lys Arg Leu Glu  
 225 230 235 240  
 Glu Ala Leu Met Ala Asp Met Leu Ala His Val Glu Glu Leu Ala Arg  
 245 250 255  
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 Glu His Val  
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 <212> DNA  
 <213> Unknown

<400> 5

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 <213> Unknown

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 35 40 45  
 Val Arg Arg Glu Gly Ala Arg Gly Gly Gly Arg Gly Arg Gly Arg Trp  
 50 55 60  
 Lys Gln Ala Ala Arg Gly Gly Gly Val Cys Gly Arg Gly Arg Gly Arg  
 65 70 75 80  
 Gly Arg Gly Arg Gly Arg Gly Arg Gly Arg Gly Arg Gly Arg  
 85 90 95  
 Pro Gln Ser Gly Gly Ser Gly Leu Gly Gly Asp Gly Gly Gly Ala  
 100 105 110  
 Gly Gly Cys Gly Val Gly Ser Gly Gly Val Ala Pro Arg Arg Asp  
 115 120 125  
 Pro Val Pro Phe Pro Ser Gly Ser Ser Gly Pro Gly Pro Arg Gly Pro  
 130 135 140  
 Arg Ala Thr Glu Ser Gly Lys Arg Met Asp Cys Pro Ala Leu Pro Pro  
 145 150 155 160  
 Gly Trp Lys Lys Glu Glu Val Ile Arg Lys Ser Gly Leu Ser Ala Gly  
 165 170 175  
 Lys Ser Asp Val Tyr Tyr Phe Ser Pro Ser Gly Lys Lys Phe Arg Ser  
 180 185 190  
 Lys Pro Gln Leu Ala Arg Tyr Leu Gly Asn Ala Val Asp Leu Ser Ser  
 195 200 205  
 Phe Asp Phe Arg Thr Gly Lys Met Met Pro Ser Lys Leu Gln Lys Asn  
 210 215 220  
 Lys Gln Arg Leu Arg Asn Asp Pro Leu Asn Gln Asn Lys Gly Lys Pro  
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 Asp Leu Asn Thr Thr Leu Pro Ile Arg Gln Thr Ala Ser Ile Phe Lys  
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 Asp Pro Gln Arg Met Asn Glu Gln Pro Arg Gln Leu Phe Trp Glu Lys  
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 Arg Leu Gln Gly Leu Ser Ala Ser Asp Val Thr Glu Gln Ile Ile Lys  
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Sub B1

Thr Met Glu Leu Pro Lys Gly Leu Gln Gly Val Gly Pro Gly Ser Asn  
 305 310 315 320  
 Asp Glu Thr Leu Leu Ser Ala Val Ala Ser Ala Leu His Thr Ser Ser  
 325 330 335  
 Ala Pro Ile Thr Gly Gln Val Ser Ala Ala Val Glu Lys Asn Pro Ala  
 340 345 350  
 Val Trp Leu Asn Thr Ser Gln Pro Leu Cys Lys Ala Phe Ile Val Thr  
 355 360 365  
 Asp Glu Asp Ile Arg Lys Gln Glu Glu Arg Val Gln Gln Val Arg Lys  
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 <212> PRT  
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<400> 8

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 35 40 45  
 Leu Ala Arg Tyr Leu Gly Gly Ser Met Asp Leu Ser Thr Phe Asp Phe  
 50 55 60  
 Arg Thr Gly Lys Met Leu Met Asn Lys Met Asn Lys Ser Arg Gln Arg  
 65 70 75 80  
 Val Arg Tyr Asp Ser Ser Asn Gln Val Lys Gly Lys Pro Asp Leu Asn  
 85 90 95  
 Thr Ala Leu Pro Val Arg Gln Thr Ala Ser Ile Phe Lys Gln Pro Val  
 100 105 110  
 Thr Lys Ile Thr Asn His Pro Ser Asn Lys Val Lys Ser Asp Pro Gln  
 115 120 125  
 Lys Ala Val Asp Gln Pro Arg Gln Leu Phe Trp Glu Lys Lys Leu Ser  
 130 135 140  
 Gly Leu Ser Ala Phe Asp Ile Ala Glu Glu Leu Val Arg Thr Met Asp  
 145 150 155 160  
 Leu Pro Lys Gly Leu Gln Gly Val Gly Pro Gly Cys Thr Asp Glu Thr  
 165 170 175  
 Leu Leu Ser Ala Ile Ala Ser Ala Leu His Thr Ser Thr Leu Pro Ile  
 180 185 190  
 Thr Gly Gln Leu Ser Ala Ala Val Glu Lys Asn Pro Gly Val Trp Leu  
 195 200 205  
 Asn Thr Ala Gln Pro Leu Cys Lys Ala Phe Met Val Thr Asp Asp Asp  
 210 215 220  
 Ile Arg Lys Gln Glu Glu Leu Val Gln Gln Val Arg Lys Arg Leu Glu  
 225 230 235 240  
 Glu Ala Leu Met Ala Asp Met Leu Ala His Val Glu Glu Leu Ala Arg  
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